W. H. Ryan,

Bending Wood.

No. 43,745. Patented Aug. 2, 1864.

Fig. 6

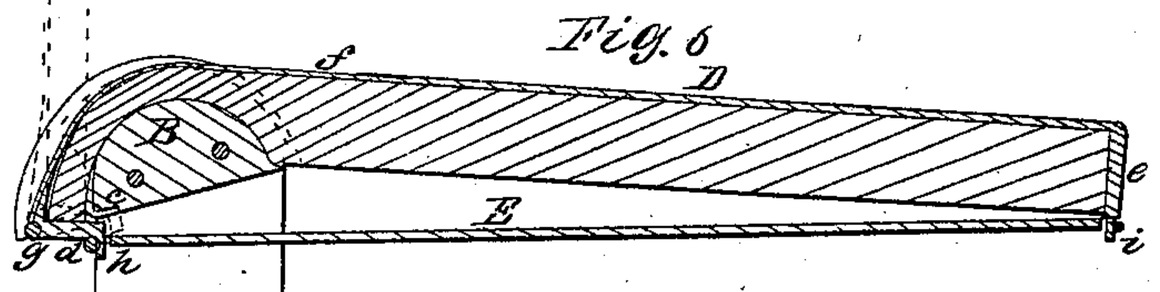


Fig. 5

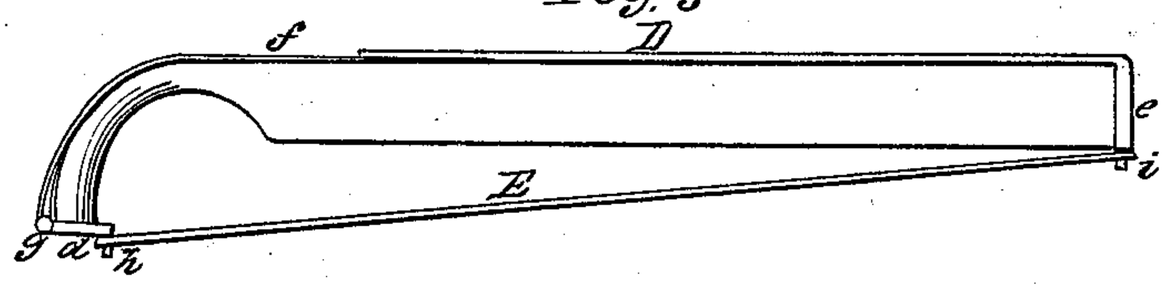


Fig. 4

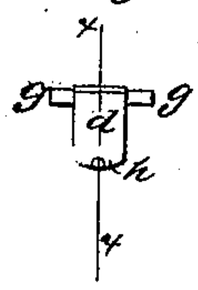


Fig. 3

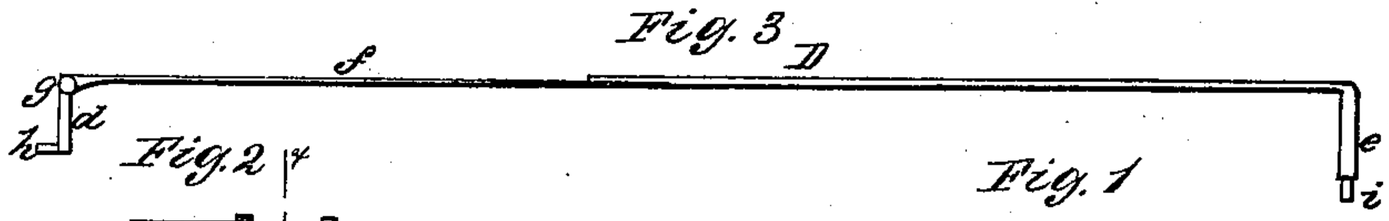


Fig. 2

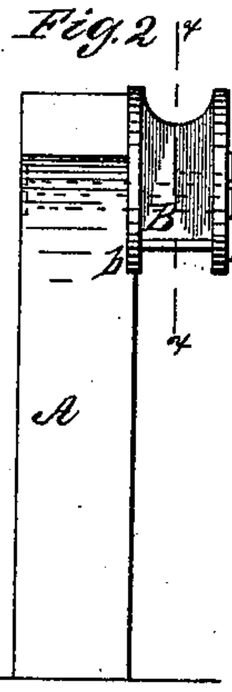
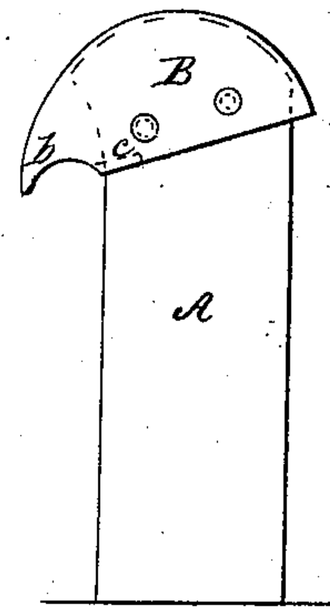


Fig. 1



Witnesses;
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per Munn & Co
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UNITED STATES PATENT OFFICE.

WILLIAM H. RYAN, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO HIMSELF AND T. E. C. BRINDLEY, OF SAME PLACE.

IMPROVEMENT IN WOOD-BENDING MACHINES.

Specification forming part of Letters Patent No. **43,745**, dated August 2, 1864.

To all whom it may concern:

Be it known that I, WILLIAM H. RYAN, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and Improved Wood-Bending Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a side elevation of the forming device; Fig. 2, an end elevation of the same; Figs. 3 and 4, views of the spring bending-strap detached; Fig. 5, side elevation of the strap and a bent plow-handle combined; Fig. 6, side sectional elevation of the whole improvement.

Similar letters of reference indicate like parts.

A is a strong frame or post, upon the top of which I firmly mount the forming-block B, which may be made of wood, metal, or any other suitable material. The upper surface of the block B is grooved in concave form, and its general shape conforms or corresponds with the form which is intended to be given to the wood.

The machine here described is intended especially for the bending of plow-handles. The back end of the former B is made in hook form, as shown at *b*, and the under surface of the former has a recess, *c*, to receive the bottom plate, *d*, of the spring-bending strap D. The latter consists of a bar of metal turned at one end into hook form, *e*, made elastic like a spring toward the rear portion, capable of easily bending, as indicated by *f*, and terminating in a bottom plate, *d*, which stands at right angles to the body of the strap D, as shown in Fig. 3. The bottom plate, *d*, is also provided with two projecting lugs or ears, *g g*, and bolt or locking-stop *h*, as shown.

The strap D may be wholly composed of steel, with the part *f* hammered down so as to form a spring; or the spring *f* may be made separately and attached to the strap D by rivets or other fastening. The bottom of the hook *e* terminates in a bolt or locking-stop, *i*, as shown.

In using this machine the bottom plate, *d*, is inserted into the recess *c*, and the ears *g g* are brought under the hooked ends *b* of the former B, and the butt of the plow-handle is placed upon the plate *d*, the whole occupying the position shown by red lines in Fig. 6. Force is now applied to bring down the front end of the strap D, together with the plow-handle, to a horizontal position, and when this has been done a rod, E, which has an eye at each end, is slipped over the projections or stops *h i*, and the strap D and the now bent plow-handle are retained or locked in their bent condition, as shown in Figs. 5 and 6. The strap and handle thus combined may now be removed from the former B, to be stored or dried in any suitable manner until the bent wood acquires the desired permanence of form.

By the use of a series of straps, D, any desired number of handles or other articles may be quickly bent and laid away, only one former, B, being necessary.

This invention is applicable to the bending of wood in various forms.

I do not claim, broadly, the bending of wood over forming-blocks, nor the use of an elastic strap; but,

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination of the forming-block B with its hooked projection for the retention of the plate *d* by its lugs *g* in the act of springing the timber, the strap D and the rod E, by which the bow is retained in its bent condition.

May 7, 1864.

WILLIAM H. RYAN.

Witnesses:

FINLEY SMITH,

D. H. GREGG.